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## CLAIMS

What is claimed is:

- 1 1. A flexible sheet, comprising:  
2 a polyimide base layer; and  
3 a metallic layer formed in a grid pattern upon said base layer.
- 1 2. The flexible sheet of claim 1, further comprising:  
2 a plurality of metallic layers, formed upon said base layer, at least one of  
3 said plurality of metallic layers formed in said grid pattern.
- 1 3. The flexible sheet of claim 2, wherein said plurality of metallic layers  
2 further comprise:  
3 an adhesion layer, said adhesion layer further comprising:  
4 a chromium layer, applied upon said polyimide base layer; and  
5 a copper layer, formed upon said chromium layer;  
6 a nickel layer, formed upon said adhesion layer; and  
7 a gold layer, formed upon said nickel layer.
- 1 4. The flexible sheet of claim 1, wherein said polyimide base layer is about 8  
2 to about 25 angstroms (Å) in thickness.
- 1 5. The flexible sheet of claim 4, wherein said polyimide base layer is about 18  
2 angstroms in thickness.
- 1 6. The flexible sheet of claim 3, wherein said chromium layer is about 250  
2 angstroms in thickness.

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1           7.     The flexible sheet of claim 3, wherein said copper layer is about 1,500 to  
2     about 2,500 angstroms in thickness.

1           8.     The flexible sheet of claim 3, wherein said nickel layer is about 20,000  
2     angstroms in thickness.

1           9.     The flexible sheet of claim 3, wherein said gold layer is about 350 to about  
2     15,000 angstroms in thickness.

1           10.    The flexible sheet of claim 3, wherein said nickel layer is formed upon  
2     said adhesion layer by plating in accordance with said grid pattern.

1           11.    The flexible sheet of claim 10, wherein said gold layer is formed upon said  
2     nickel layer by plating in accordance with said grid pattern.

1           12.    The flexible sheet of claim 11, wherein portions of said adhesion layer are  
2     removed such that remaining portions of said adhesion layer conform to said grid pattern.

1           13.    The flexible sheet of claim 12, wherein said removed portions of said  
2     adhesion layer are removed by etching.

1           14.    The flexible sheet of claim 10, wherein said gold layer is formed upon said  
2     nickel layer by evaporation thereon.

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1           15.    The flexible sheet of claim 10, wherein:  
2                   portions of said adhesion layer are removed such that remaining portions  
3 of said adhesion layer conform to said grid pattern; and  
4                   said gold layer is formed upon said nickel layer by evaporation thereon.

1           16.    The flexible sheet of claim 15, wherein said removed portions of said  
2 adhesion layer are removed by etching.

1           17.    The flexible sheet of claim 3, wherein said nickel layer provides a  
2 diffusion barrier between said adhesion layer and said gold layer.

1           18.    The flexible sheet of claim 17, wherein said gold layer has low contact  
2 resistance.

1           19.    The flexible sheet of claim 18, wherein said gold layer protects underlying  
2 layers from oxidation.

1           20.    The flexible sheet of claim 1, wherein said grid pattern further comprises:  
2                   a plurality of horizontally oriented strips; and  
3                   a plurality of vertically oriented strips.

1           21.    The flexible sheet of claim 20, wherein:  
2                   said plurality of horizontally and vertically oriented strips have a width of  
3 about 25  $\mu\text{m}$  to about 50  $\mu\text{m}$ .

1           22.    The flexible sheet of claim 21, wherein:  
2                    said plurality of horizontally oriented strips are separated from one another  
3           by about 15  $\mu\text{m}$  to about 25  $\mu\text{m}$ .

1           23.    The flexible sheet of claim 22, wherein:  
2                    said plurality of vertically oriented strips are separated from one another  
3           by about 25  $\mu\text{m}$  to about 1 mm.

1           24.    A method of forming a flexible sheet, comprising:  
2                    forming a polyimide base layer; and  
3                    depositing a metallic layer in a grid pattern upon said base layer.

1           25.    The method of claim 24, further comprising:  
2                    depositing a plurality of metallic layers upon said base layer, at least one  
3           of said plurality of metallic layers formed in said grid pattern.

1           26.    The method of claim 25, wherein said depositing a plurality of metallic  
2           layers further comprises:  
3                    forming an adhesion layer, said adhesion layer further comprising:  
4                            a chromium layer, applied upon said polyimide base layer; and  
5                            a copper layer, formed upon said chromium layer;  
6                            forming a nickel layer upon said adhesion layer; and  
7                            forming a gold layer upon said nickel layer.

1           27.    The method of claim 24, wherein said polyimide base layer is about 8 to  
2           about 25 angstroms ( $\text{\AA}$ ) in thickness.

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1           28.    The method of claim 27, wherein said polyimide base layer is about 18  
2           angstroms in thickness.

1           29.    The method of claim 26, wherein said chromium layer is about 250  
2           angstroms in thickness.

1           30.    The method of claim 26, wherein said copper layer is about 1,500 to about  
2           2,500 angstroms in thickness.

1           31.    The method of claim 26, wherein said nickel layer is about 20,000  
2           angstroms in thickness.

1           32.    The method of claim 26, wherein said gold layer is about 350 to about  
2           15,000 angstroms in thickness.

1           33.    The method of claim 26, wherein said nickel layer is formed upon said  
2           adhesion layer by plating in accordance with said grid pattern.

1           34.    The method of claim 33, wherein said gold layer is formed upon said  
2           nickel layer by plating in accordance with said grid pattern.

1           35.    The method of claim 34, wherein portions of said adhesion layer are  
2           removed such that remaining portions of said adhesion layer conform to said grid pattern.

1           36.    The method of claim 35, wherein said removed portions of said adhesion  
2           layer are removed by etching.

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1 37. The method of claim 33, wherein said gold layer is formed upon said  
2 nickel layer by evaporation thereon.

1 38. The method of claim 33, wherein:  
2 portions of said adhesion layer are removed such that remaining portions  
3 of said adhesion layer conform to said grid pattern; and  
4 said gold layer is formed upon said nickel layer by evaporation thereon.

1 39. The method of claim 38, wherein said removed portions of said adhesion  
2 layer are removed by etching.

1 40. The method of claim 26, wherein said nickel layer provides a diffusion  
2 barrier between said adhesion layer and said gold layer.

1 41. The method of claim 40, wherein said gold layer has low contact  
2 resistance.

1 42. The method of claim 41, wherein said gold layer protects underlying layers  
2 from oxidation.

1 43. The method of claim 24, wherein said grid pattern further comprises:  
2 a plurality of horizontally oriented strips; and  
3 a plurality of vertically oriented strips.

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1           44.    The method of claim 43, wherein:  
2                   said plurality of horizontally and vertically oriented strips have a width of  
3   about 25  $\mu\text{m}$  to about 50  $\mu\text{m}$ .

1           45.    The method of claim 44, wherein:  
2                   said plurality of horizontally oriented strips are separated from one another  
3   by about 15  $\mu\text{m}$  to about 25  $\mu\text{m}$ .

1           46.    The method of claim 44, wherein:  
2                   said plurality of vertically oriented strips are separated from one another  
3   by about 25  $\mu\text{m}$  to about 1 mm.